


# Asbestos, Lead, Brownfields and Structure Revitalization

A banner for the VCU Center for Environmental Studies. The top section features the text "Virginia Commonwealth University" in a green bar. Below this is a large photograph of a modern, multi-story brick building with a central tower and a curved facade. Overlaid on the photograph is the text "VCU Center for Environmental Studies" in a large, stylized font. To the left of the photograph is a green sidebar with a list of links: "Academics", "Faculty and Staff", "Research", "Training", "VCU Rice Center", and "Contact Us". Below the photograph is a yellow bar with text describing the center's role. To the right of the photograph is a small inset image of a person in a lab coat working with glassware. Below the yellow bar is a green bar with text describing the center's offerings. In the bottom right corner is a brown box with the text "VCU RICE CENTER".

Virginia Commonwealth University

VCU  
Center for  
Environmental Studies

Academics  
Faculty and Staff  
Research  
Training  
VCU Rice Center  
Contact Us

The Center for Environmental Studies is the focal point for environmental studies research and instruction at Virginia Commonwealth University.

The Center provides more than thirty distinguished cooperating faculty; expansive offering of environmental training opportunities; and a geographic information systems laboratory.

VCU  
RICE CENTER

R. Leonard Vance, JD, Ph.D., PE

March 10, 2011

- Lead RRP Regulatory Program
- Asbestos
- Mold
- HUD Healthy Homes Program

# Lead in Paint, Dust, and Soil

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## Renovation, Repair and Painting (RRP)


 You will need Adobe Reader to view some of the files on this page. See [EPA's PDF page](#) to learn more.

On this page you will find:

- [EPA Requirements](#)
- [EPA Authorized State Programs](#)
- [Information for Contractors](#)
- [Information for States and Tribes](#)
- [Information for Property Owners of Rental Housing, Child-Occupied Facilities](#)
- [Information for Homeowners Working at Home](#)
- [Information for Tenants and Families of Children under Age 6 in Child Care Facilities and Schools](#)
- [Information for Training Providers](#)
- [Information for Lead Test Kit Vendors](#)
- [Information for Realtors and Property Management Firms](#)
- [Related Notices, Final and Proposed Rules, and Background Information on EPA's Lead Renovation, Repair and Painting Program Rule](#)

### EPA Requirements

Common renovation activities like sanding, cutting, and demolition can create hazardous lead dust and chips by disturbing lead-based paint, which can be harmful to adults and children.

#### Lead-Safe Renovation, Repairs and Painting

**Contractors Must Be Lead-Safe Certified**



-- How to become Lead-Safe Certified

-- Find accredited training providers near you

-- Find certified firms near you

-- Find out about EPA-recognized test kits

-- Find out if your state is operating the certification

# April 22, 2010

- EPA RRP Rule went into effect
  - <http://www.epa.gov/lead/pubs/renovation.htm>
- Applies to:
  - Pre 1978 residences
  - Child occupied facilities
- Firms must be certified
- Certified Renovators req'd on covered jobs

# What Is Lead-Based Paint?

- 1.0 milligram per square centimeter
- 0.5 percent by weight.
- Primary source of lead-contaminated dust in housing
- Why was lead used in paint?
  - **Lead was added for color and durability.**
- Lead-based paint was banned in 1978 by CPSC.

# How Widespread is Lead-Based Paint in Housing?

Year House Was Built	Percent of Houses with Lead Based Paint
Before 1940	86 percent
1940-1959	66 percent
1960-1978	25 percent
All Housing	35 percent

# How to Determine if Lead-Based Paint is Present

- Paint testing must be performed prior to renovation on all surfaces to be affected by the work, or you must presume the paint is lead-based. Any testing must be performed by the appropriate qualified professional.

Type of Paint Testing for Renovations	Who can do the testing?
EPA-recognized test kits	Certified Renovators
X-Ray Fluorescence instruments (surface-by-surface)	Certified lead-based paint inspectors or risk assessors
Paint chip sampling and laboratory testing	Certified lead-based paint inspectors or risk assessors





**\$5<sup>97</sup>**

Everyday  
Low  
Price

LEADCHECK SWABS 3M

**\$8**

QT PENETRI





# Newsweek

July 15, 1991

## LEAD And Your Kids

Disturbing New Evidence  
About the Threat  
to Their Health

How to Protect Them



# Health Risks of Lead

- Very hazardous to children.
  - **Damages the brain and central nervous system; can cause decreased intelligence, reading and learning difficulties, behavioral problems, and hyperactivity.**
  - **Damage can be irreversible, affecting children throughout their lives.**
- Hazardous to pregnant women.
  - **Damage to the fetus.**
- Also hazardous to workers and other adults.
  - **High blood pressure.**
  - **Loss of sex drive and/or capability.**
  - **Physical fatigue.**
  - **Kidney & brain damage**
- Lead exposure causes permanent damage.
- Causes cancer

# Why are Dust and Debris a Problem?

- Renovation activities that disturb lead-based paint create dust and debris. Debris becomes dust.
- Lead-contaminated dust is poisonous.
- Very small amounts of lead-contaminated dust can poison children and adults.
  - **Children swallow dust during ordinary play activities.**
  - **Adults swallow or breathe dust during work activities.**
- Workers can bring lead-contaminated dust home and poison their families.

# Regulations

- **U.S. Environmental Protection Agency (EPA):**
  - Established accredited training and certification programs for workers, supervisors, inspectors and risk assessors conducting evaluation or abatement of lead-based paint.
  - Established requirements for pre-renovation education.
  - **Promulgated the Renovation, Repair, and Painting Program Final Rule (RRP Rule). Eff. Date: 4/22/2010**
- **U.S. Department of Housing and Urban Development (HUD):**
  - Established actions in Federally-assisted target housing.
  - Established Federal grant programs.
  - Established guidelines for lead-based paint evaluation and control; established the Lead Safe Housing Rule.
- **U.S. Occupational Safety and Health Administration (OSHA):**
  - Established worker protection standards.

# The RRP Rule

- Addresses activities that disturb lead-based paint in target housing and child-occupied facilities. It requires:
  - Renovators to be certified through training.
  - Firms to be certified.
  - Training providers to be accredited.
  - Lead-safe work practices during renovations.
  - Pre-renovation education in target housing and child-occupied facilities.
- After April 22, 2010, firms working in pre-1978 homes and child-occupied facilities must be certified and use lead-safe work practices during renovations.
- EPA may authorize states to enforce the Rule.



# The RRP Rule: Exclusions

- Renovation activities where affected components do not contain lead-based paint.
- Emergency renovations (requires cleanup and cleaning verification).
- Minor repair and maintenance activities. *Note: This exclusion does not apply to **window replacement**, demolition or activities involving prohibited practices.*
  - 6 ft<sup>2</sup> inside/room; 20 ft<sup>2</sup> outside
- Renovations performed by homeowners in their own homes.
- Volunteer work
  - habitat for humanity
  - churches

# The RRP Rule: Firm Certification

- Covered renovations must be performed by Certified Firms, using Certified Renovators and other trained workers.
- To become certified, firms must submit an application, and pay a fee, to EPA.
- Certifications will be good for 5 years.
- Certification allows the firm to perform renovations in any non-authorized state

# **The RRP Rule:**

## **Firm Responsibilities**

- Ensure overall compliance with the RRP Rule.
- Ensure that all renovation personnel are Certified Renovators or have been trained on-the-job by Certified Renovators.
- Assign a Certified Renovator to all jobs.
- Meet pre-renovation education requirements.
- Meet recordkeeping requirements.

# **The RRP Rule: Certified Renovator Responsibilities**

- Perform work and direct lead-safe work practices.
- Provide on-the-job training to non-certified workers.
- Keep a copy of the initial and/or refresher training certificates onsite.
- Use EPA-recognized test kits to identify lead-based paint.
- Be physically present while posting signs, containing work areas, and cleaning work areas.
- Be available by telephone when off-site.
- Maintain the containment to keep dust and debris within the work area.
- Implement the cleaning verification procedure.
- Prepare and maintain required records.

# **The RRP Rule: Work Practice Standards**

The Renovation, Repair, and Painting Final Rule covers setup of the work area, prohibited work practices, cleanup and the cleaning verification procedure.

- **Setup practices**, such as posting signs and containing the work area
- **Prohibited practices** and dust reduction requirements
- **Cleanup practices and cleaning verification procedures**
- **Recordkeeping**

# The RRP Rule: Enforcement

- EPA may suspend, revoke, or modify a firm's certification if the Certified Firm or Certified Renovator is found to be in non-compliance.
- Those firms found to be non-compliant may be liable for civil penalties of up to **\$32,500** for each violation.
- Those firms who knowingly or willfully violate this regulation may be subject to fines of up to an additional **\$32,500** per violation, or imprisonment, or both.





## Criminal Enforcement



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You are here: [EPA Home](#) » [Compliance and Enforcement](#) » [Enforcement](#) » [Criminal Enforcement](#) » EPA Fugitives

## EPA Fugitives



Learn more about:

[Criminal Enforcement](#)  
[Criminal Prosecutions](#)

Defendants charged with environmental crimes or violations of the U.S. Federal Criminal Code sometimes flee the court's jurisdiction and/or the USA rather than face prosecution or to serve a sentence. When these circumstances occur, the defendants become fugitives from justice.

The following wanted posters identify fugitives sought by the EPA's Criminal Investigation Division. Each one provides a brief case summary and instructions on how to report information related to their identity and/or current location. You may also report the information to your local police or if you are outside the United States, to the nearest U.S. Embassy.

**Do not attempt to apprehend any of these individuals.**



**DELEON**

# Educate Owners and Residents



## The Pre-Renovation Education Rule:

- Requires Renovation Firms to provide the *Renovate Right* pamphlet to owners/residents prior to renovation activities in pre-1978 housing and child-occupied facilities.
- Specifies requirements for educating residents/occupants and delivering the *Renovate Right* pamphlet that vary by type of property and the area being renovated.

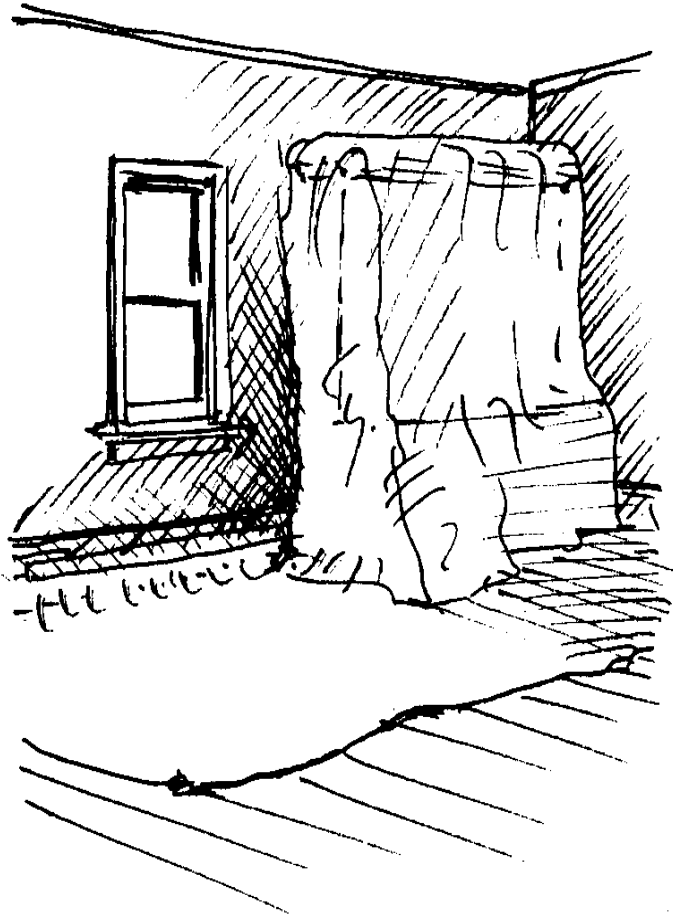
## Under the RRP Rule, Certified Firms MUST:

- Give homeowners/residents and child-occupied facility owners/adult representatives copies of the *Renovate Right* pamphlet.
- Let parents/guardians of children using a child-occupied facility know about the renovation and how to get a copy of the *Renovate Right* pamphlet.
- Get confirmation of receipt of the *Renovate Right* pamphlet from owners, or evidence that the pamphlet was delivered to tenants/residents.
- Keep all records for at least 3 years.

# What Is Containment?

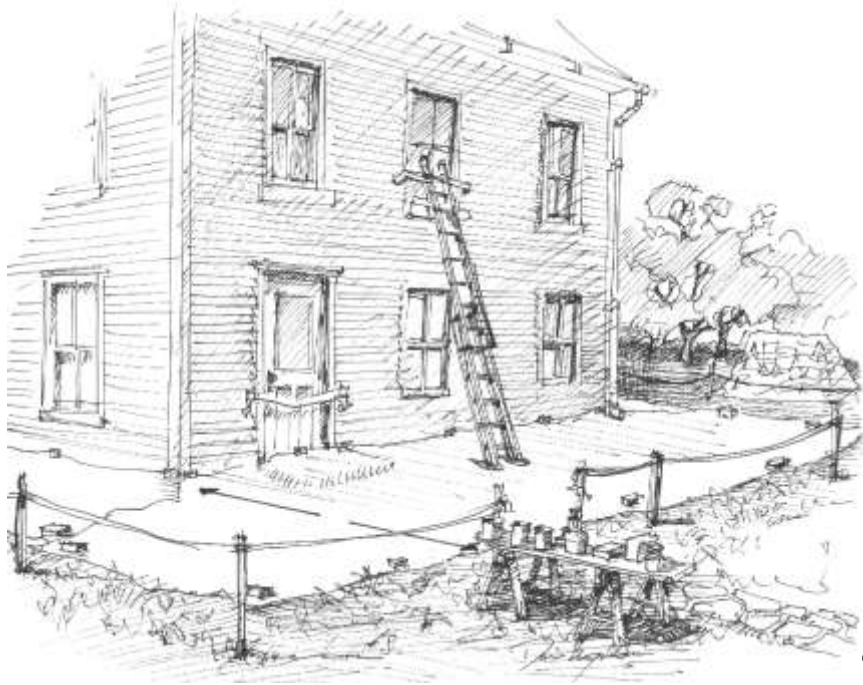
- “Containment” is a system of temporary barriers used to isolate a work area so that no dust or debris escapes while the renovation is being performed.
- Benefits of containment.
  - **Protects residents and workers.**
  - **Prevents spread of dust to rest of house/building or neighboring properties.**
  - **Easier cleaning at the end of the job.**
- Containment is required.

# Interior Containment: Remove or Cover Belongings



- Remove belongings.
- Cover immovable objects in protective sheeting, including:
  - **Furniture;**
  - **Carpet; and,**
  - **Lamps and other fixtures.**
- Seal edges and seams.

# Exterior Containment: Establish the Work Area

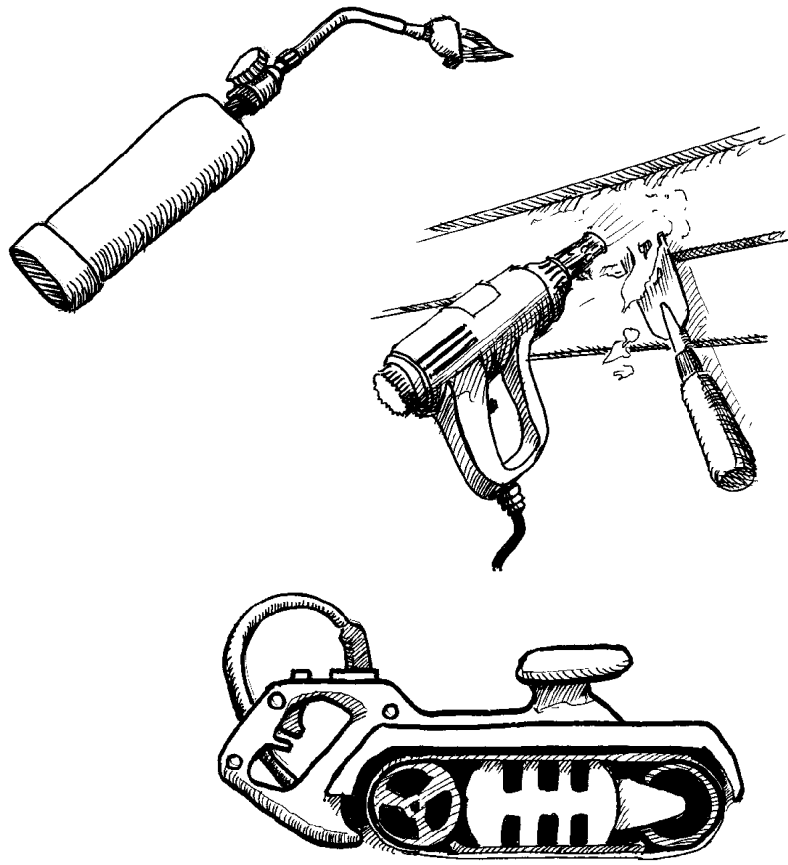


- Cover the ground with protective sheeting.
  - If space permits, extend a minimum of 10 feet from the work area.
  - Pay special attention and cover nearby vegetable gardens and children's play areas.
- Limit access, place signs.
  - Establish a 20 foot perimeter around the work area if space permits.





# Prohibited Practices



- Open-flame burning or torching.
- Heat gun above 1100° F.
- Power sanding, power grinding, power planing, needle guns, abrasive blasting and sandblasting, without HEPA vacuum attachment.

# Specialized Tools

- Large jobs may require special considerations to get the job done, like:
  - **Power sanders, grinders and planers, needle guns, and abrasive and sand blasters, each with required HEPA-filtered capture attachments.**
  - **Pneumatic and battery powered tools to protect against shock hazards.**
  - **Specialized planning and containment.**



# Recordkeeping

- must have records available at the work site of:
  - **Training of Certified Renovators and non-certified renovation workers.**
  - **Certifications for the Certified Firm and Certified Renovators.**
- Retain all records for at least 3 years after completion of the renovation.
- Keep records of:
  - **Training and certifications for all renovation personnel, and for certification of the firm.**
  - **Distribution of required information.**
  - **Communications with and certifications from owners and residents.**
  - **Work activities**
  - **Post-renovation reports.**

# Disposal

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- EPA RCRA Rules apply:
  - In housing: Waste must be disposed of as normal household waste.
  - In non-residential child-occupied facilities: Waste may be a RCRA hazardous waste



THE FACILITIES  
PEOPLE TELL ME  
THERE'S ASBESTOS  
IN THE CEILING.



THEY SAY YOU  
DON'T NEED TO  
WORRY ABOUT IT  
UNLESS IT GETS  
DISTURBED.



THEY  
PLAN TO  
DISTURB  
IT TODAY.



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# EPA Asbestos NESHAP

- Definitions
  - Category I, II; RACM; ACWM
- Inspection Requirement: reno/demo
- Exclusion for dwellings, 4 or fewer units
- 10 day notices
  - 160, 260, 35 rule
- Work Practices
  - Wet methods, no visible emissions
- Waste Handling
  - labels, waste shipment record
- Disposal



**36-99.7 Virginia Code**  
**Asbestos inspection in buildings**  
**to be renovated/demolished**

**C. Inapplicable to single family dwellings or residential housing with four or fewer units, unless the renovation or demolition for commercial or public development purposes.**

**Inapplicable if amount of regulated ACM is less than 260 linear feet, less than 160 ft<sup>2</sup>, or less than 35 ft<sup>3</sup>**



# VIRGINIA

REGULATORY TOWN HALL

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Commerce and Trade

**Agency**

Department of Professional and Occupational Regulation

**Board**

## Virginia Board for Asbestos, Lead and Home Inspectors

[Guidance Documents](#)[Periodic Reviews](#)**Chapters**[Board Information](#)[Meetings](#)[General Notices](#)

6 active chapters (and 1 repealed)

VAC Code	Chapter Title	Last Activity	Last Review
<a href="#">18 VAC 15-11</a>	Public Participation Guidelines	9/15/2008	
<a href="#">18 VAC 15-20</a>	Virginia Asbestos Licensing Regulations	4/28/2008	
<a href="#">18 VAC 15-30</a>	Virginia Lead-Based Paint Activities Regulations	10/16/2006	
<a href="#">18 VAC 15-40</a>	Certified Home Inspector Regulations	6/8/2009	
<a href="#">18 VAC 15-50</a>	Lead-based Paint Renovation, Repair and Painting Regulation	9/14/2009	
<a href="#">18 VAC 15-60</a>	Mold Inspector and Mold Remediator Licensing Regulation	9/14/2009	

### Repealed

<a href="#">18 VAC 15-10</a>	(Repealed) Public Participation Guidelines	2/9/2004	12/14/2000
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## Healthy Homes and Lead Hazard Control

About OHHLHC  
A Healthy Home  
Enforcement  
Grant Programs  
Lead Paint  
Mold and Moisture  
Outreach  
Regulations  
Renting or Buying?  
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## Communities

## Working with HUD

## Tools

Webcasts  
Mailing lists  
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Help

# Making Homes Healthier for Families

Which would you choose: to live in a home you could afford, or one that is healthy for your family? Sadly, too many families in America are forced with that decision every day.

HUD believes our communities should make homes available to families that are affordable and healthy. "Healthy Homes" is a century-old concept that promotes safe, decent, and sanitary housing as a means for preventing disease and injury. There is a lot of emerging scientific evidence linking health outcomes such as asthma, lead poisoning, and unintentional injuries to substandard housing. And, there are more than 6 million substandard housing units nationwide. [Help Yourself to a Healthy Home](#) provides valuable information to assist in making your home healthier for you and your family.

But it's not just older homes that contain hazards. Even newer expensive homes may have hazards lurking within. Creating healthier housing promotes the healthy growth and development of children and has the potential to save billions in health care costs. Everyone needs a healthy home and some of the most serious health problems for children start in their home. There are special reasons to think about children:



[Information by State](#)



[Esta página en español](#)



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## Want More Information?

- [Healthy Homes Informational Brochure](#)
- [Healthy Housing Reference Manual](#)
- [Help Yourself to a Healthy Home Booklet](#)
- [7 Steps to a Healthy Home](#)
- [A Maintenance Checklist for Making Your Home Healthier](#)

- [About Allergies](#)
- [About Asthma](#)
- [About Carbon Monoxide](#)
- [About Integrated Pest Management](#)
- [About Lead](#)
- [About Mold](#)
- [About Radon](#)

To learn more about the importance of healthy indoor air, visit [EPA's online Indoor Air Quality Guide](#).

# The Surgeon General's Call to Action To Promote Healthy Homes

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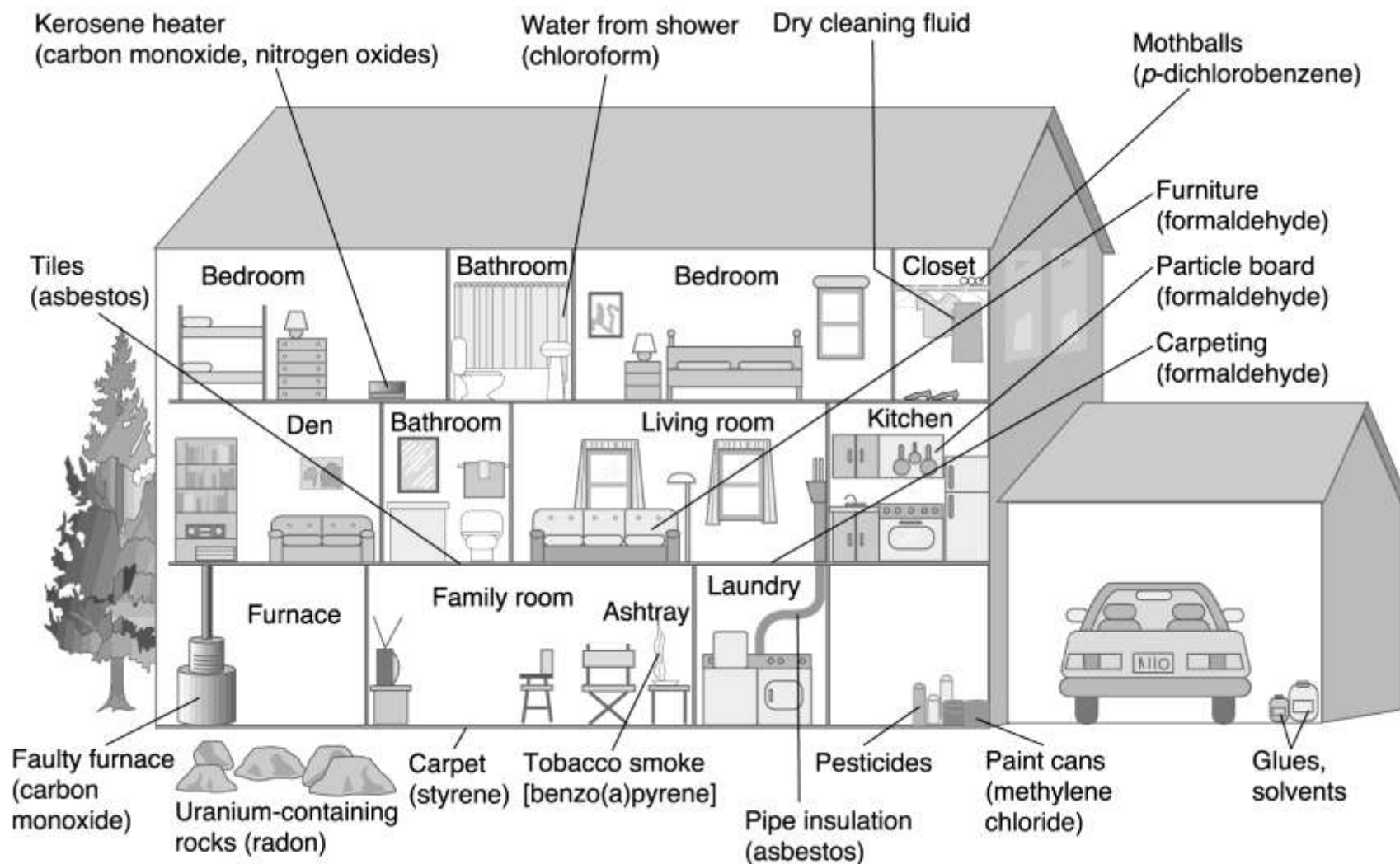
2009



- About Allergies
- About Asthma
- About Carbon Monoxide
- About Integrated Pest Management
- About Lead
- About Mold
- About Radon



Figure 4.10 Sources of major indoor air pollutants.



# Center for Environmental Studies

